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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,053	10/15/2001	Carlos E. Davila	214576US20	1670
22850	7590	01/19/2006	EXAMINER KIM, KEVIN	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ART UNIT 2638	PAPER NUMBER

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/976,053	Applicant(s) DAVILA, CARLOS E. <i>ac</i>	
	Examiner Kevin Y. Kim	Art Unit 2638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213:

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 15-18 and 29-31 is/are rejected.
- 7) ☒ Claim(s) 5-14 and 19-28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-31 have been considered but are moot in view of the new ground(s) of rejection.

It is appreciated that during the September 7, 2005 interview Dr. Berger elaborated on the key features of the present invention, that had been somewhat misunderstood by this examiner. With a better understanding of the present invention a new search has been made and prior art references cited previously but not used have been reviewed. It has been found that one of the cited references, US Pat. No. 6,539,366, renders some of the claims obviousness, as set forth below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 15-18, 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Doyle et al (US 6,539,366 previously cited but not used).

Claims 1, 15 and 30.

The admitted prior art describes a method and apparatus of coding a signal frame at a transmitter using a Karhunen-Loeve transform, comprising the steps of estimating KLT basis vectors and calculating KLT coefficients before transmitting both of the KLT basis vectors and KLT coefficients to a receiver. The claimed invention is different in that the KLT basis vectors

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are not transmitted. Doyle et al teaches a similar coding and decoding (codec) method where the basis vectors are not transmitted (see col. 2, lines 63-65) to reduce transmission data. Note that Doyle et al's method is related to compressing information which attempts to transmit as little as data possible and yet enough to reconstruct information from the transmitted data. Thus, it would have been obvious to one skilled in the art at the time the invention was made to transmit the KLT coefficients only to a receiver to minimize data to be transmitted or stored as taught by Doyle et al.

Claim 2.

Doyle et al teaches quantizing the KLT coefficients. See col. 5, lines 22-23. Furthermore, it is quite established that transmission data is encoded for error correction purposes.

Claim 3.

Although not described, it would have been obvious not to transmit coefficients that are equal to zero, which seems to carry no information.

Claim 4.

To transmit a plurality of signal frames, the steps of estimating, calculating and transmitting required for each frame would be repeated.

Claims 16, 29 and 31.

The admitted prior art describes a method and apparatus of decoding a signal frame at a receiver using a Karhunen-Loeve transform, comprising the steps of receiving KLT basis

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vectors and KLT coefficients before recreating the signal frame. The claimed invention is different in that the KLT basis vectors are not received but are estimated at the receiver. Doyle et al teaches a similar coding and decoding (coded) method where the receiver reconstruct the information based on the received coefficients and the basis vectors that are estimated at the receiver to reduce transmission data. See col. 5, lines 38-41. Note that Doyle et al's method is related to compressing information which attempts to transmit as little as data possible and yet enough to reconstruct information from the transmitted data. Thus, it would have been obvious to one skilled in the art at the time the invention was made to design a KLT receiver that needs to receive only the KLT coefficients for reconstruction of information to minimize data to be transmitted or stored as taught by Doyle et al.

Claim 17.

Is quite established that transmission data is encoded for error correction purposes and thus needs to be decoded at the receiver.

Claim 18.

To transmit a plurality of signal frames, the steps of estimating, calculating and transmitting required for each frame would be repeated.

Allowable Subject Matter

4. Claims 5-14, 19-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**KEVIN KIM
PATENT EXAMINER**